

AMENDED CLAIMS

received by the International Bureau on 21 March 2005 (21.03.2005) original claims 1-17 have been replaced by amended claims 1-17.

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A molding apparatus (1) including a moving mold (10) for shaping molten plastic into product made within said moving mold (10), said moving mold (10) being surrounded by an air block housing (11) to define a cooling chamber (13) exteriorly around said moving mold (10), a source of cooling air (24), the cooling air (24) being contained by said housing (11) within said cooling chamber (13) to act on and provide cooling of said moving mold (10).

2. Apparatus (1) as claimed in Claim 1 wherein the source of cooling air (24) comprises at least one cooling air unit (21, 25).

3. Apparatus (1) as claimed in Claim 2 wherein said cooling unit (21, 25) is located internally of said air block housing (11).

4. Molding apparatus (1) as claimed in Claim 3 including at least one blower (27) for circulating the cooled air (24) within said cooling chamber (13).

5. Apparatus as claimed in Claim 2 wherein said cooling unit (21, 25) is located externally of said air block housing (11), said apparatus including ducting (15) from said unit (21, 25) to said air block housing (11) and a blower (27) for moving the cooled air from said cooling unit (21, 25) through said ducting into air block housing (11).

6. Molding apparatus as claimed in Claim 1 wherein said source of cooling air (24) comprises cooled ambient air externally of said cooling chamber (13), said

apparatus including ducting (15) from said housing (11) to the source of cooling air.

7. Molding apparatus as claimed in Claim 6 including
5 blower means (15) to move the cooling air from said source through said ducting (15) into said cooling chamber (13).

8. Apparatus as claimed in Claim 1 wherein said air
10 block housing (11) is insulated to minimize heat loss of the cooling air (24) through said housing (11).

9. Apparatus as claimed in Claim 8 including access doors (47, 49) through said housing to said moving mold
15 (10), said access doors (47, 49) also being insulated.

10. Apparatus as claimed in Claim 9 including an alarm (51) that indicates opening of said access doors (47, 49).

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11. Apparatus as claimed in Claim 1 including extruder die tooling feeding into said moving mold (10) at one end of said housing (11) and further including a heater for heating said die tooling to offset effect of
25 the cooling air in said cooling chamber on the die tooling.

12. Apparatus as claimed in Claim 1 wherein said moving mold (10) comprises a pipe corrugator (7, 9).

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13. Apparatus as claimed in Claim 1 wherein said moving mold (10) travels in a vertical direction through said cooling chamber (13).

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14. Apparatus as claimed in Claim 1 wherein said moving mold (10) travels in a horizontal direction

through said cooling chamber (13).

15. Apparatus as claimed in Claim 1 including a product cooler (17) downstream of said air block housing 5 (11), said product cooler (17) being inline with and receiving the plastic product from said moving mold (10) and comprising a cooler housing around the product, and a heat exchanger within said cooler housing, said heat exchanger in said cooler housing providing cooled air 10 which is trapped within the cooler housing to act on the product after the product is released from the moving mold.

15. 16. Apparatus as claimed in Claim 1 including a plurality of heat exchangers (21, 25) located within said cooling chamber (13), said plurality of heat exchangers (21, 25) including first and second heat exchangers located to opposite sides of said moving mold (10).

20 17. Apparatus as claimed in Claim 1 wherein said moving mold (10) comprises mold block sections (7, 9) which move in a downstream direction through said cooling chamber (13) in a closed mold block configuration and which move upstream of said cooling chamber in an open 25 mold block section configuration, said apparatus including first and second heat exchangers (21) located to first and second sides of said moving mold (10) and directed at said mold block sections (7, 9) in the closed mold block configuration, and further including third and 30 fourth heat exchangers (25) to third and fourth sides of said moving mold and directed at said mold block sections (7, 9) in the open mold block section configuration.